"""print("hello")

U=[]

a=int(input("Enter Total Number of students"))

for i in range(1,a+1):

roll=int(input("Enter roll number of student "+str(i)))

U.append(roll)

C=[]

b=int(input("ENter the number of student playing cricket"))

for i in range(1,b+1):

roll=int(input("Enter roll number of student "+str(i)))

C.append(roll)

B=[]

c=int(input("Enter number of students playing badminton"))

for i in range(1,c+1):

roll=int(input("Enter roll number of student "+str(i)))

B.append(roll)

F=[]

d=int(input("Enter number of students playing football"))

for i in range(1,d+1):

roll=int(input("Enter roll number of student "+str(i)))

F.append(roll)

bothCB=[]

def CandB():

for i in range(b):

for j in range(c):

if C[i]==B[j]:

bothCB.append(B[j])

print("Student playing both Cricket and badminton are ",bothCB)

CandB()

eitherCorB=[]

def CorB():

for i in range(b):

if C[i] not in B:

eitherCorB.append(C[i])

for i in range(c):

if B[i] not in C:

eitherCorB.append(B[i])

print("Student playing either Cricket or badminton are ",eitherCorB)

CorB()

add12=bothCB+eitherCorB

neitherCorB=[]

def NCorB():

for i in U:

if i not in add12:

neitherCorB.append(i)

print("Students playing neither cricket nor badminton are ",neitherCorB)

NCorB()

bothCF=[]

def CandF():

for i in range(b):

for j in range(d):

if C[i]==F[j]:

bothCF.append(F[j])

print("Student playing both Cricket and football are ",bothCF)

CandF()

"""

#matrics

"""

arr=[]

X = int(input("enter the number of row:"))

y =int(input("enter the number of column:"))

for i in range(X):

arr2=[]

for j in range(y):

x=int(input("enter the element row wise:"))

arr2.append(x)

arr.append(arr2)

print("the matrics element:",arr)

for i in range(X):

for j in range(y):

print(arr[i][j] ,end=" ")

print()

sum\_d1 =0

sum\_d2=0

flag=0

rowsum=0

colsum=0

for i in range(X):

for j in range(y):

if (i==j):

sum\_d1 = sum\_d1+arr[i][j]

if (i+j==X-1):

sum\_d2 = sum\_d2++arr[i][j]

if sum\_d1!=sum\_d2:

flag=1

else:

for i in range(X):

rowsum=0

colsum=0

for j in range(y):

rowsum=rowsum+arr[i][j]

colsum = colsum+arr[j][i]

if (rowsum!=colsum) and (rowsum!=sum\_d1):

flag=1

break

if flag==1:

print("the gien matrics is not magic square")

else:

print("matrics is magic square")

print("sum of dignol" , sum\_d1)

print("sum od dignol" , sum\_d2)

print("the sum of row" ,rowsum)

print("the sum of column" , colsum)

"""

"""

Write a Python program to store marks scored in subject “Fundamental of Data Structure” by N students in the class. Write functions to compute following:

a) The average score of class

b) Highest score and lowest score of class

c) Count of students who were absent for the test

d) Display mark with highest frequency

"""

"""

total\_num = int(input("enter the total number of student in the class:"))

marks = []

print("\*\*mark -1 for the absent")

for i in range(total\_num):

x = int(input("enter the mark of each student"))

marks.append(x)

print(marks)

def avg():

ab=0

sum=0

for i in range(tot\_num):

if marks[i]==-1:

ab=ab+1

print("THE NUMBER OF ABSENT STUDENTS IS: ",ab)

present=tot\_num-ab

print("THE NUMBER OF PRESENT STUDENTS IS: ",present)

for i in range(tot\_num):

if(marks[i]!=-1):

sum=sum+marks[i]

average=sum/present

print("THE AVERAGE OF STUDENTS IS: ",average)

def high\_low():

highest=marks[0]

lowest=marks[0]

for i in marks:

if i!=-1:

if highest<i:

highest=i

print("THE HIGHEST SCORE IN CLASS IS: ",highest)

for i in marks:

if i!=-1:

if lowest>i:

lowest=i

print("THE LOWEST SCORE IN CLASS IS: ",lowest)

def \_freq():

freq=0

hfreq=0

for p in range(tot\_num):

for q in range(tot\_num):

if(marks[p]!=-1):

if(marks[q]!=-1):

if marks[p]==marks[q]:

freq=freq+1

if(freq>=hfreq):

hfreq=freq

x=marks[p]

freq=0

print("Frequency of ",x,"marks is ",hfreq)

avg()

high\_low()

\_freq()

"""

"""total\_num = int(input("enter the total number of student in class:"))

marks = []

print("enter -1 for the absent")

for i in range(total\_num):

x = int(input("enter the mark of each student"))

marks.append(x)

print("mark list",marks)

def avg():

ab=0

sum=0

for i in range(total\_num):

if marks[i]==-1:

ab=ab+1

print("the number of absent student" , ab)

present = total\_num-ab

print("total number of present student is", present)

for i in range(total\_num):

if(marks[i]!=-1):

sum=sum+marks[i]

average = sum/present

print("the avg student is" , average)

def high\_low():

highest= marks[0]

lowest= marks[0]

for i in marks :

if (i!=-1):

if highest<i:

highest=i

print("the hight score in the class" , highest)

for i in marks:

if(i!=-1):

if lowest>i:

lowest=i

print("the loweststudent in the class" , lowest)

def \_freq():

freq=0

hfreq=0

for p in range(total\_num):

for q in range(total\_num):

if marks[p]!=-1:

if marks[q]!=-1:

if marks[p]==marks[q]:

freq = freq+1

if freq>=hfreq:

hfreq=freq

x = marks[p]

freq= 0

print("frequancy of " , x,"marks is" , hfreq)

avg()

high\_low()

\_freq()

Write a python program to store second year percentage of students in array. Write function for sorting array of floating point numbers in ascending order using

a) Insertion sort b) Shell Sort and display top five scores."""

def ine\_sort(arr):

for i in range(1,len(arr)):

key = arr[i]

j=i-1

while j>=0 and arr[j]>key:

arr[j+1]=arr[j]

j-=1

arr[j+1]=key

return arr

print(ine\_sort([2,4,5,3,25]))

def shell\_sort(arr):

n= len(arr)

gap = n//2

while gap>0:

for i in range(gap,n):

temp = arr[i]

while i >=gap and arr(i-gap)>temp:

arr[i]=arr[i-gap]

i=gap

arr[i]=temp

gap//=2

return arr

print(shell\_sort([3,5,6,3,2]))

def bubble\_sort(arr):

for i in range(len(arr)-1):

for j in range(len(arr)-1):

if arr[j]>arr[j+1]:

arr[j],arr[j+1]=arr[j+1],arr[j]

return arr

print(bubble\_sort([3,5,3,2]))

def selection\_sort(arr):

for i in range(len(arr)):

min=i

for j in range(i+1,len(arr)):

if arr[j]<arr[min]:

min=j

arr[i],arr[min]=arr[min],arr[i]

return arr

print(selection\_sort([34,55,3,22]))